

REMARKS

Claims 1, 2, 5, 8, 9, 10, 18, 19, 23, 24, 25, 26, 27 and 34 have been amended.

Claims 1-34 are present in the subject application.

Applicants gratefully acknowledge the Examiner's indication of patentable subject matter.

In the Office Action dated May 3, 2000, the Examiner has allowed claims 15-17 and 31-33, has indicated that claims 2-3, 5-6, 8-14, 19-20 and 23-30 contain patentable subject matter, has rejected claim 34 under 35 U.S.C. §102(b) and 35 U.S.C. §102(e) and has rejected claims 1, 4, 7, 18, 21 and 22 under 35 U.S.C. §103(a). Each of these issues is discussed below.

Initially, the Examiner has indicated that claims 15-17 and 31-33 are allowed, and has objected to claims 2-3, 5-6, 8-14, 19, 20 and 23-30 as being dependent upon a rejected base claim. The Examiner has further indicated that claims 2-3, 5-6, 8-14, 19, 20 and 23-30 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Accordingly, claims 2, 5, 8, 9, 10, 19, 23, 24, 26 and 27 have been rewritten in independent form, while claims 3, 6, 11-14, 20, 25, 28-30 depend from the rewritten independent claims with claim 25 being amended for consistency with claim 24. Thus, claims 2-3, 5-6, 8-14, 19, 20 and 23-30 are considered to be in condition for allowance.

The Examiner has rejected claim 34 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,653,905 (McKinney). This rejection is respectfully traversed since the McKinney patent does not disclose each and every feature recited in the claim. Briefly, the McKinney patent discloses a holding oven designed for creating a natural convection current in an oven chamber. A heater element is affixed to a cabinet by a hold-down plate formed of a first material having a high thermal capacity. The hold-down plate contacts a lower surface of the heater element, and further communicates with a cabinet inner casing to form a heat bank. The hold-down plate further presses

the heater element against a second material having a relatively high thermal conductivity to form a heat conductor for rapidly conducting heat from the heater element to the oven chamber inner walls. The heat conductor is formed of two opposed L-shaped pieces in an upright position, while the heater element is positioned under the juncture of the foot and leg of each L-shaped piece and draws heat up the side wall of the conductor. The legs of each L-shaped piece are hottest to propel the thermal energy upward along the cabinet sides and downward along a central cabinet portion, thereby resulting in a natural heat convection within the cabinet.

In contrast, the present invention is directed towards a temperature controlled system including a cabinet or system housing having at least one drawer for containing intravenous solution bags or other medical items. Each drawer is individually controlled, and generally includes a plurality of sub-compartments, each sub-compartment accommodating an intravenous solution bag or other medical item. The drawers are each pivotable relative to the system housing to permit access to the sub-compartments. A heating element is typically disposed beneath each drawer bottom wall to apply heat to walls of corresponding sub-compartments and evenly distribute heat to intravenous solution bags contained within those sub-compartments. Each drawer is associated with a controller that controls the heating element to apply heat to the corresponding drawer sub-compartments in accordance with a comparison between desired and measured temperatures associated with that drawer.

This rejection is respectfully traversed since the McKinney patent does not disclose, teach or suggest the claimed feature of applying heat to a first wall of each receptacle and conducting the applied heat from the first wall to remaining receptacle walls to distribute heat about a corresponding medical item contained within that receptacle to heat the medical item to a desired temperature. However, in order to expedite prosecution of the subject application, claim 34 has been amended to

recite the feature of the receptacle being manipulable relative to the housing and receiving at least one medical item within the receptacle in response to manipulation of the receptacle relative to the housing. The McKinney patent does not disclose, teach or suggest either of the above features. Rather, the McKinney patent discloses an oven having a cabinet and a heat conductor in the form of two opposed L-shaped pieces to conduct heat from a heating element to walls of an oven inner chamber and to draw heat up the conductor pieces to create a natural heat convection within the cabinet (e.g., See Column 8, lines 45, 48). Further, the inner chamber is not manipulable relative to the housing to facilitate entry and removal of medical items within the oven as recited in the claim. Since the McKinney et al patent does not disclose, teach or suggest the features recited in claim 34 as discussed above, this claim is considered to overcome the rejection.

The Examiner has rejected claim 34 under 35 U.S.C. §102(e) as being anticipated by either U.S. Patent No. 5,986,239 (Corrigan, III et al) or U.S. Patent No. 5,977,520 (Madson, Jr. et al). This rejection is respectfully traversed. Briefly, the Corrigan, III et al patent discloses a conductive warmer for flexible plastic bags containing foam precursor chemicals. The warmer includes a heat conducting member having a plurality of fins which are parallel and spaced apart to define a plurality of bag receiving compartments. The fins are connected to a back portion of the heat conducting member to which a heating element is attached in a heat-exchanging relationship. Operation of the heating element conducts heat through the back portion and the fins of the heat conducting member to the bags. The heat conducting member is contained within a housing having an opening providing access to the open side of the compartments.

The Madson, Jr. et al patent discloses a moist heat unit for applying heat to therapeutic moist heat packs. The unit includes a stainless steel tank having an access opening at the uppermost extremity thereof leading to a chamber defined by the tank bottom wall and tank side walls. A

laterally projecting flange is provided at the uppermost extremity of the tank side walls and extends along the access opening. The tank fits into a central chamber in an insulating casing of a low heat conductive material, and is held in place in spaced relationship to the bottom, side and end walls of the insulated casing by the flange. The steel tank includes one or more heating units secured to the tank bottom wall externally of the tank chamber to provide heating through the bottom wall. In order to achieve effective operation with little heat loss, it is necessary to drive heat through the stainless steel tank bottom wall to heat water within the tank chamber and to maintain the water at an operating temperature about 165°F.

In contrast, the present invention is directed toward a temperature controlled system as described above.

The Examiner takes the position that the Corrigan, III et al and Madson, Jr. et al patents individually disclose each and every feature recited in claim 34. The Examiner further alleges that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and prior art, and that a prior art structure capable of performing an intended use meets the claim limitations. As discussed above, claim 34 recites the features of applying heat to each receptacle first wall and conducting the applied heat from the first wall to remaining receptacle walls to distribute heat about a corresponding medical item contained within that receptacle and to heat the medical item to a desired temperature, and a receptacle manipulable relative to the housing and receiving at least one medical item within the receptacle in response to manipulation of the receptacle relative to the housing. The Corrigan, III et al patent does not disclose, teach or suggest each and every feature recited in claim 34. In fact, the Corrigan, III et al patent discloses a conductive warmer having a heat-conducting member contained in a housing and including a back portion and a plurality of fins which project from and are connected to the back

portion in a heat-conductive relationship. A heating element is attached to the back portion of the heat conducting member where the fins provide uniform heating (e.g., See Column 3, lines 30, 65). Although the warmer housing may be pivoted to adjust the angle of the fins with a horizontal axis (e.g., See Column 4, lines 54, 66), the heat conducting member is not manipulable relative to the housing to facilitate entry and removal of medical items as recited in the claim. Rather, the Corrigan, III et al patent discloses that access to the heat conducting member compartments is provided by a housing opening (e.g., See Column 3, line 35).

Similarly, the Madson, Jr. et al patent does not disclose, teach or suggest each and every feature recited in claim 34. Rather, the Madson, Jr. et al patent discloses a tank having heaters secured to the tank bottom wall externally of the tank chamber to provide heating through the bottom wall. The tank is not manipulable relative to the housing to provide access to facilitate entry and removal of medical items as recited in the claim. In fact, access to the tank chamber is provided by an opening defined at the uppermost extremity of the tank (e.g., See Column 2, line 19). Further, the Madson, Jr. et al patent discloses that the stainless steel tank is a relatively poor heat conductor (e.g., See Column 2, line 51), thereby teaching away from the claimed feature of conducting heat from a first receptacle wall to remaining receptacle walls to distribute heat to a medical item contained therein. Since the McKinney, Corrigan, III et al and Madson, Jr. et al patents do not disclose, teach or suggest each and every feature recited in claim 34 as discussed above, this claim is considered to be in condition for allowance.

The Examiner has rejected claims 1, 4, 18 and 21 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,977,520 (Madson, Jr. et al) in view of U.S. Patent No. 3,879,171 (Tulis). This rejection is respectfully traversed. Briefly, the Madson, Jr. et al patent discloses a moist heat unit for applying heat to therapeutic moist heat packs as described above. The Tulis patent

discloses an electric heating assembly for a sterilant package. The assembly includes a back wall member formed of an electrically insulated material having heating elements or conductors embedded therein and a front wall member. The front wall member is generally secured at one edge to the back wall and removably fastened about edges thereof to form a chamber to receive the sterilant package.

In contrast, the present invention is directed toward a temperature controlled system as described above.

The Examiner takes the position that the Madson, Jr. et al patent discloses a chamber for receiving a medical item, temperature sensors and conducting heat from a first wall to secondary walls. The Examiner further alleges that the Madson, Jr. et al patent does not disclose control means facilitating entry of a desired temperature for the chamber, but that the Tulis patent discloses control means facilitating entry of a desired temperature for the chamber. The Examiner takes the further position that it would have been obvious to one of ordinary skill in the art to adapt the control means of the Tulis patent to the device of the Madson, Jr. et al patent to automate its operation.

This rejection is respectfully traversed since the Madson, Jr. et al and Tulis patents do not disclose, teach or suggest, either alone or in combination, the features recited in independent claims 1 and 18 of applying heat to a first wall of each receptacle and secondary walls of each receptacle conducting heat from the first wall of each receptacle to distribute the heat about a corresponding medical item contained within that receptacle to heat the medical item to a desired temperature. However, in order to expedite prosecution of the subject application, claims 1 and 18 have been amended to recite the feature of each receptacle being manipulable relative to the housing to facilitate entry and removal of the medical item within the system. The Madson, Jr. et al patent does not disclose, teach or suggest either of the above features. As discussed above for claim 34, the

Madson, Jr. et al patent discloses a tank having heaters secured to the tank bottom wall externally of the tank chamber to provide heating through the bottom wall. The tank is not manipulable relative to the housing to provide access to facilitate entry and removal of medical items as recited in the claims. In fact, access to the tank chamber is provided by an opening defined at the uppermost extremity of the tank (e.g., See Column 2, line 19). Further, the Madson, Jr. et al patent discloses that the stainless steel tank is a relatively poor heat conductor (e.g., See Column 2, line 51), thereby teaching away from the claimed feature of conducting heat from a receptacle first wall to secondary walls to distribute heat to a medical item contained therein.

The Tulis patent similarly does not disclose, teach or suggest the above features. In fact, the Tulis patent discloses a heating assembly having a back wall member with a plurality of conductive heating elements embedded therein. Side edges of a front wall member include snap assemblies for fastening the front wall member to the back wall. The front wall member thusly forms compartments for receiving a sterilant package (e.g., See Column 2, line 14). The compartments are not manipulable relative to a housing to facilitate entry and removal of medical items and do not conduct heat from a first wall to secondary walls to heat a medical item as recited in the claims. Since the Madson, Jr. et al and Tulis patents do not disclose, teach or suggest, either alone or in combination, the features recited in independent claims 1 and 18 as discussed above, these claims are considered to be in condition for allowance.

Claims 4 and 21 depend from independent claims 1 and 18, respectively, and include all limitations of their parent claims. These claims are considered to be in condition for allowance for substantially the same reasons discussed above in relation to claims 1 and 18.

The Examiner has rejected claims 7 and 22 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,977,520 (Madson, Jr. et al) in view of U.S. Patent No. 3,879,171 (Tulis) and

further in view of U.S. Patent No. 4,419,568 (Van Overloop). This rejection is respectfully traversed. Briefly, the Madson, Jr. et al patent discloses a moist heat unit for applying heat to therapeutic moist heat packs as described above, while the Tulis patent discloses an electric heating assembly for a sterilant package as described above. The Van Overloop patent discloses a heater for wet dressings including a case having a base with side walls defining a cavity and an insert connected to the base and defining at least one recess in the cavity to receive the wet dressings. A heater includes an electrical heating element in close proximity to the insert recess for heating the wet dressings, while the temperature of the heating element is controlled in the desired range of temperature of the wet dressings.

In contrast, the present invention is directed toward a temperature controlled system as described above.

The Examiner takes the position that the combination of the Madson, Jr. et al and Tulis patents does not disclose the claimed feature of temperature control for a plurality of chambers, but that the Van Overloop patent discloses a temperature control for a plurality of warming chambers. The Examiner further alleges that it would have been obvious to one of ordinary skill in the art to adapt the control means of the Van Overloop patent to the warming device of the combination of the Madson, Jr. et al and Tulis patents to enhance uniformity of temperature where items are desirably heated individually. The Examiner further takes the position that either of the Tulis or Van Overloop patents suggest the desirability of individual heating chambers for medical items.

Initially, claims 7 and 22 depend from independent claims 1 and 18, respectively, and include all the limitations of their parent claims. Claims 7 and 22 are considered to overcome the combination of the Madson, Jr. et al and Tulis patents for substantially the same reasons discussed above in relation to their parent claims. Further, the Van Overloop patent does not disclose, teach

or suggest the above-discussed features recited in independent claims 1 and 18 (i.e., and in dependent claims 7 and 22) of a receptacle manipulable relative to the housing to facilitate entry and removal of medical items and secondary receptacle walls conducting heat from a receptacle first wall to distribute heat about a medical item contained in the receptacle. Rather, the Van Overloop patent discloses heating elements substantially covering the outer surface of the inserts receiving the wet dressing (e.g., Fig. 2, See Column 2, line 46), while the inserts are not manipulable relative to the housing to facilitate entry and removal of the wet dressings. In fact, the Van Overloop patent discloses a lid to permit access to the heater inserts (e.g., Fig. 1, See Column 2, lines 20, 28).

Moreover, claims 7 and 22 recite the feature of the controller facilitating entry of a desired temperature for each of a plurality of heating chambers and control of the heater of each heating chamber to heat the medical item contained therein to a corresponding desired temperature. The Madson, Jr. et al, Tulis and Van Overloop patents do not disclose, teach or suggest this feature. In fact, the Van Overloop patent discloses thermostats having fixed or predetermined set points (e.g., See Column 3, line 19), as opposed to enabling entry of a desired temperature for each heating chamber as recited in the claims. Since the Madson, Jr. et al, Tulis and Van Overloop patents do not disclose, teach or suggest, either alone or in combination, the features recited in claims 7 and 22 as discussed above, these claims are considered to be in condition for allowance.

A Supplemental Information Disclosure Statement has been previously filed for the subject application. However, Applicants have not received a copy of that IDS initialed by the Examiner. Therefore, Applicants respectfully request that the Examiner consider the documents listed thereon and provide an initialed copy of that statement within the next communication.

In addition, Applicants have become aware of U.S. Patent Nos. 4,894,207 (Archer et al) and 5,661,978 (Holmes et al). These patents were cited during prosecution of a co-pending application

having related subject matter. Applicants have reviewed the patents and find them to be cumulative in nature with respect to the previously submitted and cited documents and/or not material to patentability of the subject application. However, copies of the patents are provided for the Examiner's convenience and review.

The application, having been shown to overcome the issues raised in the Office Action, is considered to be in condition for allowance and a Notice of Allowance is earnestly solicited.

Respectfully submitted,



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